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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:) PATENT
)
Torbjorn ALBERTSSON et al.)
)
Serial No.:)
)
Filed: July 11, 2001)

MANIPULATOR

PRELIMINARY AMENDMENT

July 11, 2001

Box New Application
Assistant Director for Patents
Washington, D.C. 20231

Sirs:

Before examination, please amend the above-identified application as follows:

IN THE CLAIMS:

Please amend claims 1 to 9 as follows:

1. (Amended) A manipulator comprising a plurality of mutually movable arms, a first of said arms being arranged around a first axis (A) and a second of said arms being rotatably arranged around a second axis (B), cabling extending along the arms which are mutually movable and a supporting device which supports a part of the cabling extending between the first arm and the second arm, said supporting device comprising a supporting arm which is rotatably arranged around a third axis (C) and is arranged at the first arm, and a first attachment, arranged at an outer end of the supporting arm and surrounding the cabling, wherein the first attachment and

the third axis are arranged on opposite sides of the longitudinal axis of the first arm, the supporting arm being arranged to exert a resilient force in the longitudinal direction of the cabling, and the supporting device comprising an auxiliary arm with a second attachment arranged at the second arm.

2. (Amended) A manipulator according to claim 1, wherein the supporting arm comprises an angled part which permits the cabling to be held stretched centrally over the first arm.

3. (Amended) A manipulator according to claim 1, wherein the auxiliary arm is arranged at the turning disc of the manipulator.

4. (Amended) A manipulator according to claim 1, wherein the supporting arm and the auxiliary arm support a bendable tube, in which the cabling is running.

5. (Amended) A manipulator according to claim 1, wherein a spiral spring is arranged around the third axis for influencing the supporting arm.

6. (Amended) A manipulator according to claim 5, wherein the spiral spring is housed in a container.

7. (Amended) A method in a manipulator comprising a plurality of mutually movable arms, a first of said arms being rotatably arranged around a first axis (A) and a second of said arms being rotatably arranged around a second axis (B), cabling extending along the arms which are mutually movable and a supporting device which supports a part of the cabling extending between the first arm and the second arm, the supporting device comprising a supporting arm which is rotatably arranged around a third axis (C) and is arranged at the first arm, and a first attachment, which surrounds the cabling, is arranged at the outer end of the supporting arm, comprising the steps of arranging the first attachment and the third axis on opposite sides of the longitudinal axis of the first arm, adapting the supporting arm to exert a spring force directed along the cabling, and providing the supporting device as an auxiliary arm with a second attachment which is arranged at the second arm.

8. (Amended) A method according to claim 7, wherein the supporting arm comprises an angled part which permits the cabling to be kept stretched centrally over the first arm.

9. (Amended) A method according to claim 7, further comprising arranging the auxiliary arm at the turning disc of the manipulator.

ALBERTSSON et al.
New U.S. Patent Application

Cancel claim 10.


REMARKS

Claims 1 to 9 have been amended to more closely conform the application to U.S. standards. Claim 10 has been cancelled. No new matter has been introduced, and all multiple dependent claims have been cancelled.

Attached is a marked-up version of the changes made to the claims by the current Preliminary Amendment.

Entry is believed in order.

Respectfully submitted,


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Versions with Markings to Claims to Show Changes

1. A manipulator comprising a plurality of mutually movable arms, [of which] a first of said arms being [arm (3) is rotatably] arranged around a first axis (A) and a second of said arms being [arm (7) is] rotatably arranged around a second axis (B), cabling [(12)] extending along the [mutually movable] arms which are mutually movable and a supporting device [(8)] which supports a part of the cabling extending between the first arm and the second arm, said supporting device comprising a supporting arm [(9)] which[,] is rotatably arranged around a third axis (C)[,] and is arranged at the first arm, and a first attachment [(13)], arranged at [the] an outer end of the supporting arm and surrounding the cabling, wherein [characterized in that] the first attachment and the third axis are arranged on opposite sides of the longitudinal axis of the first arm, [that] the supporting arm being arranged to exert [exerts] a resilient force in the longitudinal direction of the cabling, and [that] the supporting device [comprises] comprising an auxiliary arm [(10)] with a second attachment [(15)] arranged at the second arm.

2. A manipulator according to claim 1, [characterized in that] wherein the supporting arm [(9)] comprises an angled part which permits the cabling to be held stretched centrally over the first arm.

3. A manipulator according to claim 1, wherein [or 2, characterized in that] the auxiliary arm [(10)] is arranged at the turning disc [(7)] of the manipulator.
4. A manipulator according to claim 1, wherein [any of the preceding claims, characterized in that] the supporting arm and the auxiliary arm support a bendable tube, in which the cabling is running.
5. A manipulator according to [any of the preceding claims, characterized in that] claim 1, wherein a spiral spring [(17)] is arranged around the third axis for influencing the supporting arm.
6. A manipulator according to claim 5, wherein [characterized in that a] the spiral spring is housed in a container [(18)].
7. A method in a manipulator comprising a plurality of mutually movable arms, [of which] a first of said arms being [arm (3) is] rotatably arranged around a first axis (A) and a second of said arms being [arm (7) is] rotatably arranged around a second axis (B), cabling [(12)] extending along the [mutually movable arms] which are mutually movable and a supporting device [(8)] which supports a part of the cabling

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9. A method according to claim 7, further comprising arranging [or 8, characterized in that] the auxiliary arm [(10) is arranged] at the turning disc [(7)] of the manipulator.

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